Amendments to the Claims:

This listing of claims will replace all prior versions, and listings, of claims in the application:

Listing of Claims:

1. (*Currently Amended*) A method of etching a workpiece in a vacuum plasma processor chamber comprising converting a gas species into an AC etchant plasma that is ~~continuously~~ applied to the workpiece while a feature of the workpiece is being formed, the AC etchant plasma always being the dominant material applied to the workpiece while the feature is being formed, the vacuum chamber being subject to operating at different pressures while the workpiece is being processed, the gas species being subject to flowing into the chamber at different flow rates while the workpiece is being processed, gradually changing, on a pre-programmed basis, the amount of AC power supplied to the plasma during etching of the workpiece, wherein a gradual transition in the shape of material in the workpiece being processed occurs in response to the gradual power change, the gradual power change occurring during the gradual transition in the shape of the material.

2. (*Currently amended*) The method of claim [[1]] 32 wherein the gradual power change occurs while no change is made in (a) the species, (b) the pressure or (c) the flow rate.

3. (*Currently amended*) The method of claim [[1]] 32 wherein the AC power is supplied by an electrode coupling an AC electric field to plasma in the chamber.

4. (*Original*) The method of claim 3 wherein the electrode is responsive to an AC power source that supplies RF bias voltage to the electrode, the electrode being on a holder for the workpiece.

5. (*Original*) The method of claim 3 wherein the electrode is responsive to an AC power source that supplies RF plasma excitation voltage to the electrode, the electrode responding to the RF voltage to supply RF electric field to the plasma to excite the gas to the plasma.

6. (*Original*) The method of claim 3 wherein the AC power is supplied by a coil coupling an RF plasma excitation electromagnetic field to the chamber.

7. (***Canceled***)

8. (*Currently amended*) The method of claim [[1]] 32 wherein the species is ionized into a plasma that etches the material to form the feature, the gradual power change, the species and the continuous application of the plasma to the workpiece being such that the material is shaped to have a rounded corner that includes the formed feature in response to changes in the ionized plasma etchant resulting from the gradual power change.

9. (*Previously presented*) The method of claim 8 wherein the etching, which occurs in response to changes in the ionized plasma etchant resulting from the gradual power change

and the continuous application of the plasma to the workpiece, forms a trench wall including the rounded corner, the trench and the rounded corner being included in the formed features.

10. (*Original*) The method of claim 9 wherein the rounded corner is at an intersection of a wall and a base of a trench

11. (*Previously presented*) The method of claim 8 wherein the rounded corner is at an intersection of a wall and a surface intersecting the wall, the surface extending generally at right angles to the wall.

12. (*Currently amended*) The method of claim [[1]] 32 wherein the gradual change includes steps having power changes no greater than about several watts, the power remaining at a constant wattage for no more than about 1 second.

13. (*Original*) The method of claim 12 wherein the power steps are a few milliwatts and remain at a constant power for about 1 millisecond.

14-16. (*Canceled*)

17. (*Currently amended*) A memory storing a computer program for controlling a computer for controlling etching of a workpiece in a vacuum plasma processor chamber wherein a gas species is converted into an AC etchant plasma, the chamber being capable of operating at different pressures while the workpiece is being processed, the gas species being subject to

flowing into the chamber at different flow rates while the workpiece is being processed, the computer program storing signals causing (a) control of the amount of AC power applied to the plasma while the workpiece is being etched; and (b) the ~~continuous~~ application of the AC etchant plasma to the workpiece while a feature of the workpiece is being formed, the AC etchant plasma to always be the dominant material applied to the workpiece while the feature is being formed, the stored signal for controlling the amount of applied AC power causing gradual preprogrammed changes in the amount of AC power supplied to the etchant plasma during etching of the workpiece, the stored signal causing gradual power change being such as to cause a gradual transition in the shape of material in the workpiece being etched in response to the gradual power change to cause the gradual power change to occur during the gradual transition in the shape of the material.

18. (*Currently amended*) The memory of claim [[17]] 33 wherein the computer program also stores signals for causing (a) the vacuum chamber to operate at different pressures while the workpiece is being etched and (b) control of the gas species type and the flow rates thereof into the chamber while the workpiece is being etched, the stored signals causing the gradual power change to occur while no change is made in (a) the species, (b) the pressure or (c) the flow rate.

19. (*Canceled*)

20. (*Currently amended*) The memory of claim [[17]] 33 wherein the stored signals control etchant species supplied to the chamber while the workpiece is being processed and the gradual power transition so as to cause the workpiece to be etched to have a rounded corner.

21. (*Previously presented*) The memory of claim 20 wherein the stored signals control etchant species supplied to the chamber while the workpiece is being processed and the gradual power transition so as to cause the workpiece to be etched to have a trench wall including the rounded corner.

22. (*Previously presented*) The memory of claim 21 wherein the rounded corner is at an intersection of a wall and a base of a trench.

23. (*Currently amended*) The method of claim [[1]] 32 wherein the gradual change is substantially continuous and gradual.

24. (*Canceled*)

25. (*Currently amended*) The memory of claim [[17]] 33 wherein the gradual change is substantially continuous and gradual.

26. (*Previously presented*) The method of claim 23 wherein the gradual change includes steps having power changes in the range of a few milliwatts to several watts and having durations in the range of about one millisecond to no more than one second.

27. (*Canceled*)

28. (*Currently amended*) The memory of claim [[17]] 33 wherein the gradual change includes steps having power changes in the range of a few milliwatts to several watts and having durations in the range of about one millisecond to no more than one second.

29. (*Canceled*)

30. (*Previously presented*) The method of claim 8 wherein the gradual change includes steps having power changes no greater than about several watts, the power remaining at a constant wattage for no more than about 1 second.

31. (*Previously presented*) The memory of claim 20 wherein the gradual change includes steps having power changes in the range of a few milliwatts to several watts and having durations in the range of about one millisecond to no more than one second.

32. (*New*) The method of claim 1 wherein the etchant plasma is continuously applied to the workpiece while the feature is being formed.

33. (*New*) The method of claim 17 wherein the computer program causes the etchant plasma to be continuously applied to the workpiece while the feature is being formed.

34. (*New*) A method of etching a workpiece in a vacuum plasma processor chamber comprising converting a gas species into an AC etchant plasma that is applied to the workpiece while a feature of the workpiece is being formed, the AC etchant plasma being the only material applied to the workpiece while the feature is being formed, the vacuum chamber being subject to operating at different pressures while the workpiece is being processed, the gas species being subject to flowing into the chamber at different flow rates while the workpiece is being processed, gradually changing, on a pre-programmed basis, the amount of AC power supplied to the plasma during etching of the workpiece, wherein a gradual transition in the shape of material in the workpiece being processed occurs in response to the gradual power change, the gradual power change occurring during the gradual transition in the shape of the material.

35. (*New*) The method of claim 34 wherein the etchant plasma is continuously applied to the workpiece while the feature is being formed.

36. (*New*) The method of claim 35 wherein the species is ionized into a plasma that etches the material to form the feature, the gradual power change, the species and the continuous application of the plasma to the workpiece being such that the material is shaped to have a rounded corner that includes the formed feature in response to changes in the ionized plasma etchant resulting from the gradual power change

37. (*New*) The method of claim 36 wherein the etching, which occurs in response to changes in the ionized plasma etchant resulting from the gradual power change and the

continuous application of the plasma to the workpiece, forms a trench wall including the rounded corner, the trench and the rounded corner being included in the formed features.

38. (*New*) The method of claim 37 wherein the rounded corner is at an intersection of a wall and a base of a trench

39. (*New*) The method of claim 36 wherein the rounded corner is at an intersection of a wall and a surface intersecting the wall, the surface extending generally at right angles to the wall.

40. (*New*) The method of claim 34 wherein the gradual change includes steps having power changes no greater than about several watts, the power remaining at a constant wattage for no more than about 1 second.

41. (*New*) The method of claim 40 wherein the power steps are a few milliwatts and remain at a constant power for about 1 millisecond.